THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 37

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte AKIO MISHIMA and NAOTO KOJIMA

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Appeal No. 95-2255
Application No. 07/962,035[1]

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ON BRIEF

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Before JOHN D. SMITH, GARRIS, and PAK, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the final rejection of claims 3, 10 and 11. The only other claim remaining in the

[1] Application for patent filed October 15, 1992. According to appellants, this application is a continuation of Application 07/651,610 filed February 6, 1991, now abandoned.

application, which is claim 12, stands withdrawn from further consideration as being drawn to a nonelected invention.

The subject matter on appeal relates to a method of processing the surface of a workpiece wherein a carrier gas stream containing submicron particles (with a hardness greater than the hardness of the workpiece surface) is blown against the workpiece surface at a velocity not less than 50 m/sec with an incident angle to a perpendicular of the surface being less than 40° to cause deposition of a layer of the material of said particles. Further details of this appealed subject matter are set forth in representative independent claim 10 which reads as follows:

10. A surface processing method comprising the steps of providing a workpiece having a surface to be processed; forming a carrier gas stream containing submicron particles having an average particle size in the range of between 0.01 and 3.0 Fm, said particles being of a material with a hardness greater than a hardness of the surface of the workpiece; and then blowing said carrier gas stream at a velocity not less than 50 m/sec against the surface of the workpiece with an incident angle to a perpendicular of the surface being less than 40° to cause deposition of a layer of the material of said particles.

The reference relied upon by the examiner as evidence of obviousness is:

Forestek 4,051,275 Sep. 27, 1977

All of the appealed claims stand rejected under 35 U.S.C. § 103 as being unpatentable over Forestek.

For a complete exposition of the opposing viewpoints expressed by the appellants and the examiner concerning the above noted rejection, we refer to the Brief (Paper No. 26), the Reply Brief (Paper No. 28) and to the Answer (Paper No. 27) and the Examiner's Communication in response to the Reply Brief (Paper No. 32).

OPINION

This rejection cannot be sustained.

Forestek discloses an improvement to a known process of depositing particles onto a workpiece surface. In the known process, the surface is heated to expand the size of the fissures or pores therein, particles are then deposited in the expanded fissures or pores and subsequently the surface temperature is lowered whereby the particles are locked into the now retracted fissures or pores by interference fit (e.g., see lines 1 through 11 of the Abstract). Patentee teaches

improving this known process by subjecting the so-treated surface to a blasting fluid stream carrying finely divided particles applied at a pressure so as to compact the particles in the fissures or pores after which the original treatment is repeated thereby locking additional particles in the fissures and improving the useful life of the treated surface (e.g., see lines 11 through 22 of the Abstract).

The examiner considers the blasting fluid stream operation of Forestek to generally correspond to the here claimed surface processing method. In this regard, the examiner points out that the particles used in this operation may be in the size range claimed by the appellants and may possess a hardness greater than the hardness of the workpiece surface as required by the independent claim on appeal. Although the examiner acknowledges that the Forestek reference contains no disclosure of the here claimed velocity or incident angle features, he concludes that it would have been obvious for one with ordinary skill in the art to effect patentee's blasting fluid stream operation using velocities and incident angles within the ranges defined by appealed

independent claim 10. In these respects, see pages 3 and 4 of the Answer.

We cannot agree with the examiner's conclusion that the appellants' claimed method would have been obvious over the disclosure of Forestek. As correctly indicated by the appellants, the goal of patentee's blasting fluid stream operation differs from that of the here claimed method. Specifically, the goal of patentee's operation is "to compact the particles in the fissures" (Abstract, lines 14-15) whereas the goal of the appellants' claimed method is "to cause deposition of a layer of the material of said particles" (independent claim 10, last line). We appreciate that some of the particles in Forestek's blasting stream may become lodged permanently in the fissures (see lines 6 through 11 in column 2). However, the Forestek reference contains nothing to support the proposition that such lodged particles may be properly regarded as corresponding to the layer of the material of particles which are deposited by the appellants' claimed method. Thus, because the goals and consequences of patentee's operation are dissimilar from those of the here claimed method, there is no adequate support for the

examiner's basic position that it would have been obvious to practice Forestek's operation using parameters such as velocity and incident angle (about which patentee is silent) that correspond to those defined by appealed claim 10.

In short, the record before us does not support a conclusion that the blasting fluid stream operation of Forestek would cause deposition of a layer of the material of the particles as required by appealed claim 10 or that the parameters necessary to achieve the compaction goal of this operation would correspond to those for achieving the deposition goal of the method defined by the claims on appeal. It follows that we cannot sustain the examiner's § 103 rejection of claims 3, 10 and 11 as being unpatentable over Forestek.

The decision of the examiner is reversed.

REVERSED

JOHN D. SMITH Administrative Patent Judge	)
BRADLEY R. GARRIS Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
CHUNG K. PAK Administrative Patent Judge	)

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Hill, Steadman & Simpson
A Professional Corporation
85th Floor - Sears Tower
Chicago, IL 60606